Core Workshop: *Microbial Carbonate Reservoirs from Utah*

Field Trip: *Modern and Ancient Microbial Carbonates in Utah—Examples from Great Salt Lake and the Uinta Basin's Tertiary (Eocene) Green River Formation*

The Utah Geological Survey and Eby Petrography & Consulting, Inc., are sponsoring a core workshop and field trip on microbial carbonates in Utah following the American Association of Petroleum Geologists, Rocky Mountain Section (AAPG RMS) meeting in Salt Lake City this September. Recent discoveries in Early Cretaceous microbialites of the deepwater offshore of Brazil (pre-salt Santos Basin reservoirs) as well as other large oil deposits in microbialites (including some emerging Utah oil resource plays) reveal the global scale and economic importance of these distinctive carbonates. Utah is unique in that representative modern and ancient outcrop analogs of microbial reservoirs are present.

Core Workshop

Evaluation of the various microbial fabrics and facies, associated petrophysical properties, diagenesis, and bounding surfaces are critical to understanding these reservoirs. The core workshop will consist of three modules with lectures and core exercises that involve representative microbial fabrics and related features from the Tertiary Green River Formation and various Utah Paleozoic reservoirs. Participants will describe and breakout rock types, package and define cycles, and identify pore types and reservoir quality. This workshop is designed for geoscientists with interests in exploration and development of microbial carbonate reservoirs and who wish to examine a large collection of cores containing Utah microbial carbonates applying the results to the areas they are working.

Field Trip

Great Salt Lake is an excellent analog to the Eocene-age Lake Uinta facies represented by the Green River Formation in the Uinta Basin and microbial, shallow saline lake reservoirs worldwide. Day 1 will be an investigation of microbialites (stromatolites and thrombolites) as well as associated carbonate grains (ooids, coated grains, peloids, and lithified intraclasts) actively forming in and around Great Salt Lake. Next we will visit an outcrop of the Jurassic Twin Creek Limestone at the western end of the Uinta Mountains. Participants will traverse a stratigraphic section through the Twin Creek to identify a variety of shallow marine, microbial facies, and rock fabrics that correspond to the core from nearby Pineview oil field. Day 1

will end in Vernal, Utah. Day 2 will be an excursion to outcrops of the Green River Formation. We will visit spectacular Green River sections that display microbialite-rich intervals (stromatolites, thrombolites, and oncolites) as well as the famous Mahogany bed (oil shale). The Green River also includes grainstones (containing lacustrine oolites, pisolites, and ostracods), dolomites, and other carbonate facies associated with the microbialites. Participants will observe vertical cycles and significant boundaries as well as lateral facies changes. Day 3 will be the return to Salt Lake City before noon. For those interested in conducting a re-examination of the cores from the workshop, we will have them available at the Utah Core Research Center after the field trip.

To register for either the short course, field trip, or both, go online at: RMSAAPG2013.COM and look for short course #4 and field trip #5.

Details are listed below:

Short Course #4: ***Microbial Carbonate Reservoirs from Utah – Core Workshop***

Date: Wednesday, September 25, 8:00 A.M. – 4:30 P.M. at the Utah Geological Survey's Core Research Center, Salt Lake City, Utah

Instructors: David E. Eby, Eby Petrography & Consulting, Inc.; Thomas C. Chidsey, Jr., Utah Geological Survey; Michael D. Vanden Berg, Utah Geological Survey

Fee: $200 for professionals, $100 for students (includes lunch, refreshments, and course notes)

Limit: 30 professionals, 5 students

Post-Convention Field Trip #5: ***Modern and Ancient Microbial Carbonates in Utah: Examples from Great Salt Lake and the Uinta Basin's Tertiary (Eocene) Green River Formation***

Date: Thursday, September 26 – Saturday, September 28

Leaders: David E. Eby (Eby Petrography & Consulting, Inc.), Thomas C. Chidsey, Jr. (Utah Geological Survey), Michael D. Vanden Berg, Utah Geological Survey

Itinerary: Departs from the Hilton in Salt Lake City, Utah, at 8:00 A.M. on Thursday, September 26, and returns to the same venue or the Salt Lake International Airport by approximately 11:00 A.M., Saturday, September 28

Fee: $700 per person. Includes transportation, lunches, refreshments, two nights lodging (double occupancy), and field guide.

Limit: 24 persons